

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

1-6. (Cancelled)

7. (Previously Presented) The photoreceptor according to claim 28, wherein the charge generation layer is formed by coating a coating liquid comprising a dispersion which is prepared by dispersing the titanyl phthalocyanine so as to have a particle diameter distribution such that an average particle diameter is not greater than 0.3 μm and a standard deviation is not greater than 0.2 μm and then filtering the dispersed titanyl phthalocyanine liquid with a filter having an effective pore size not greater than 3 μm .

8. (Previously Presented) The photoreceptor according to claim 28, wherein the titanyl phthalocyanine in the charge generation layer is prepared by subjecting a titanyl phthalocyanine which has either an irregular form or a low crystallinity and has a primary particle diameter not greater than 0.1 μm and which has an X-ray diffraction spectrum in which a maximum peak having a half width not less than 1° is observed at a Bragg (2 θ) angle of from 7.0° to 7.5° ($\pm 0.2^\circ$) when a Cu-K α X-ray having a wavelength of 1.542 \AA is used, to a crystal conversion treatment using an organic solvent in the presence of water to form a crystal-changed titanyl phthalocyanine, and then subjecting the crystal-changed titanyl phthalocyanine to a filtering treatment before the crystal-changed titanyl phthalocyanine has an average primary particle diameter not less than 0.3 μm .

9. (Previously Presented) The photoreceptor according to claim 28, wherein the

charge transport layer further comprises a polycarbonate resin having at least a triaryl amine structure in at least one member selected from the group consisting of a main chain, a side chain and a combination thereof.

10. (Previously Presented) The photoreceptor according to claim 28, further comprising:

a protective layer located overlying the charge transport layer.

11. (Original) The photoreceptor according to claim 10, wherein the protective layer comprises an inorganic pigment having a resistivity not less than $1 \times 10^{10} \Omega \cdot \text{cm}$.

12. (Previously Presented) The photoreceptor according to claim 11, wherein the inorganic pigment is a material selected from the group consisting of alumina, titanium oxide and silica.

13. (Original) The photoreceptor according to claim 12, wherein the inorganic pigment is α -alumina.

14. (Original) The photoreceptor according to claim 10, wherein the protective layer comprises a charge transport polymer.

15. (Previously Presented) The photoreceptor according to claim 28, wherein a surface of the electroconductive substrate is subjected to an anodic oxidation treatment.

16. (Previously Presented) The photoreceptor according to claim 28, wherein the non-

halogenated solvent is a solvent selected from the group consisting of cyclic ethers and aromatic hydrocarbons.

17. (Previously Presented) An image forming apparatus, comprising:

at least one image forming unit comprising:

an image bearing member;

a charger configured to charge the image bearing member;

a light irradiator configured to irradiate the image bearing member with light

to form an electrostatic latent image on the image bearing member;

an image developer configured to develop the electrostatic latent image with a developer comprising a toner to form a toner image on the image bearing member; and

a transfer device configured to transfer the toner image onto a receiving material,

wherein the image bearing member is the photoreceptor of according to claim 28.

18. (Original) The image forming apparatus according to claim 17, comprising plural image forming units.

19. (Previously Presented) The image forming apparatus according to claim 17, wherein the light irradiator comprises at least one member selected from the group consisting of a light emitting diode, and a laser diode.

20. (Original) The image forming apparatus according to claim 17, wherein the charger is either a contact charger or a proximity charger which comprises a charging member charging the image bearing member while a gap is formed between the charging

member and the image bearing member.

21. (Original) The image forming apparatus according to claim 20, the charger being a proximity charger, wherein the gap is not greater than 200 μm .

22. (Original) The image forming apparatus according to claim 20, wherein the charging member applies a DC voltage overlapped with an AC voltage.

23. (Previously Presented) A process cartridge, comprising:
the photoreceptor according to claim 28; and
at least one member selected from the group consisting of a) a charger configured to charge the photoreceptor, b) a light irradiator configured to irradiate the photoreceptor with light to form an electrostatic latent image on the photoreceptor, c) an image developer configured to develop the electrostatic latent image with a developer comprising a toner to form a toner image on the photoreceptor and combinations of a), b) and c).

24. (Withdrawn-Currently Amended) A method for manufacturing a photoreceptor as claimed in Claim 28, said method comprising:

preparing a charge generation layer coating liquid comprising a dispersion of [[a]] the titanyl phthalocyanine having a particle diameter distribution such that [[an]] the average particle diameter is not greater than 0.3 μm and a standard deviation is not greater than 0.2 μm and [[a]] said polyvinyl acetal resin;

filtering the charge generation layer coating liquid with a filter having an effective pore size not greater than 3 μm ;

coating the charge generation layer coating liquid overlying [[an]] the electroconductive substrate ~~optionally~~ with an intermediate layer therebetween to form [[a]] the charge generation layer thereon; and

coating a charge transport layer coating liquid comprising [[a]] the charge transport material, [[a]] the resin and [[a]] the non-halogenated solvent on the charge generation layer to form [[a]] the charge transport layer thereon,

wherein the charge generation material has an average particle diameter less than a roughness of a surface of either the electroconductive substrate or the intermediate layer, on which the charge generation layer is located.

25. (Withdrawn-Currently Amended) The method according to claim 24, wherein the charge generation layer coating liquid preparing step comprises:

subjecting [[a]] the titanyl phthalocyanine which has either an irregular form or a low crystallinity and has a primary particle diameter not greater than 0.1 μm and which has an X-ray diffraction spectrum in which a maximum peak having a half width not less than 10 is observed at a Bragg (2 θ) angle of from 7.0 $^{\circ}$ to 7.5 $^{\circ}$ ($\pm 0.2^{\circ}$) when a Cu-K α . X-ray having a wavelength of 1.542 \AA is used, to a crystal conversion treatment using an organic solvent in the presence of water to form a crystal-changed titanyl phthalocyanine;

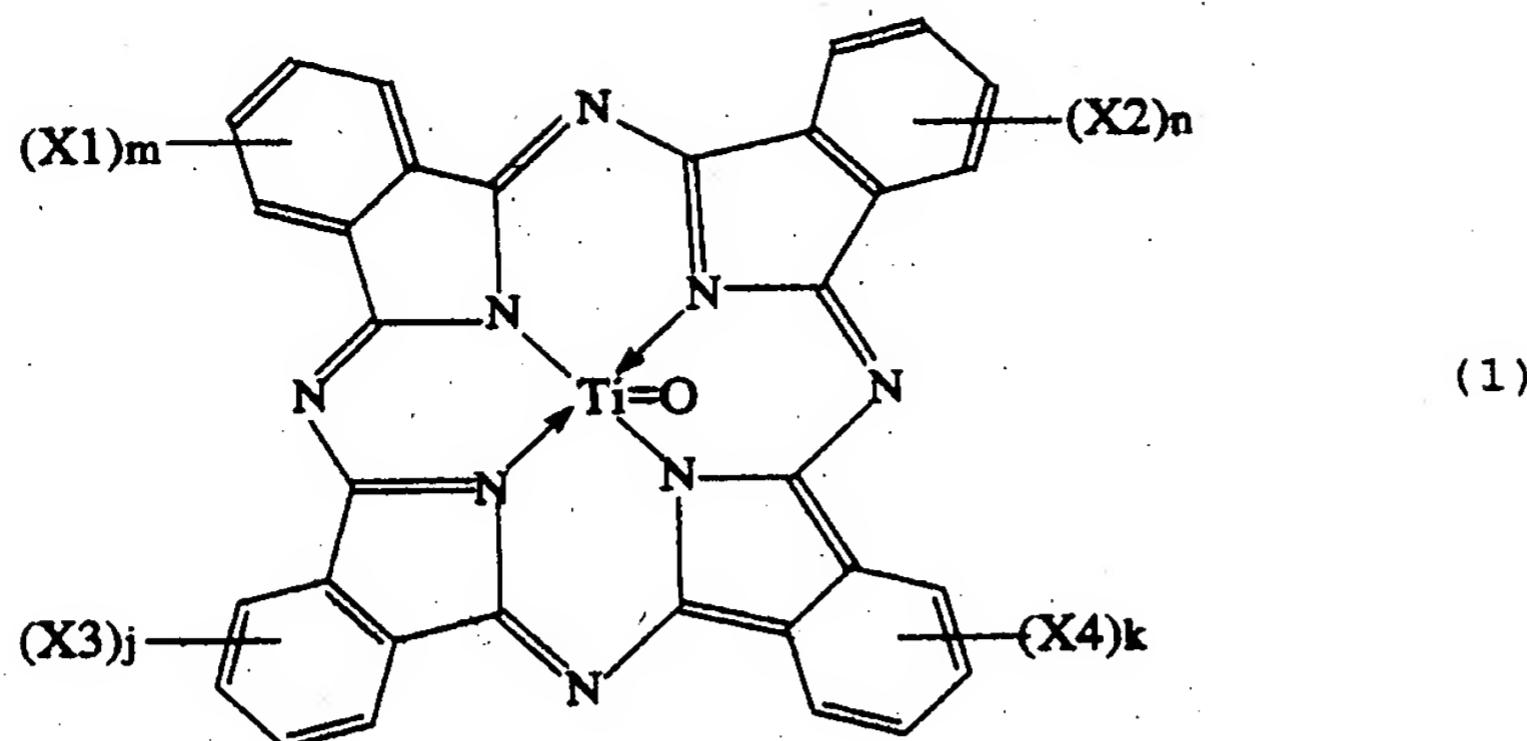
then subjecting the crystal-changed titanyl phthalocyanine to a filtering treatment before the crystal-changed titanyl phthalocyanine has an average primary particle diameter not less than 0.3 μm ; and

preparing a charge generation layer coating liquid comprising the crystal-changed titanyl phthalocyanine having a particle diameter distribution such that an average particle diameter is not greater than 0.3 μm and a standard deviation is not greater than 0.2 μm and [[a]] the polyvinyl acetal.

26. (Withdrawn) The method according to claim 24, wherein the non-halogenated solvent is a solvent selected from the group consisting of cyclic ethers and aromatic hydrocarbons.

27. (Cancelled)

28. (Currently Amended) A photoreceptor, comprising:
an electroconductive substrate;
a charge generation layer located overlying the electroconductive substrate with an intermediate layer therebetween; and
a charge transport layer formed overlying the charge generation layer using a non-halogenated solvent and comprising a charge transport material and a resin;
wherein the charge generation layer comprises
a polyvinyl acetal resin, and
a titanyl phthalocyanine, as charge generation material, having an average particle diameter less than a roughness of a surface of the intermediate layer, on which the charge generation layer is located,
wherein the titanyl phthalocyanine has an X-ray diffraction spectrum according to Figure 13 when a Cu-K α X-ray having a wavelength of 1.542 Å is used;
wherein the average particle diameter of the charge generation material is not greater than 0.3 μ m and not greater than 2/3 of the roughness of the surface of the intermediate layer;
and
wherein said titanyl phthalocyanine is represented by formula (1)



wherein X1, X2, X3 and X4 independently represent a halogen atom, and m, n, j and k are 0;

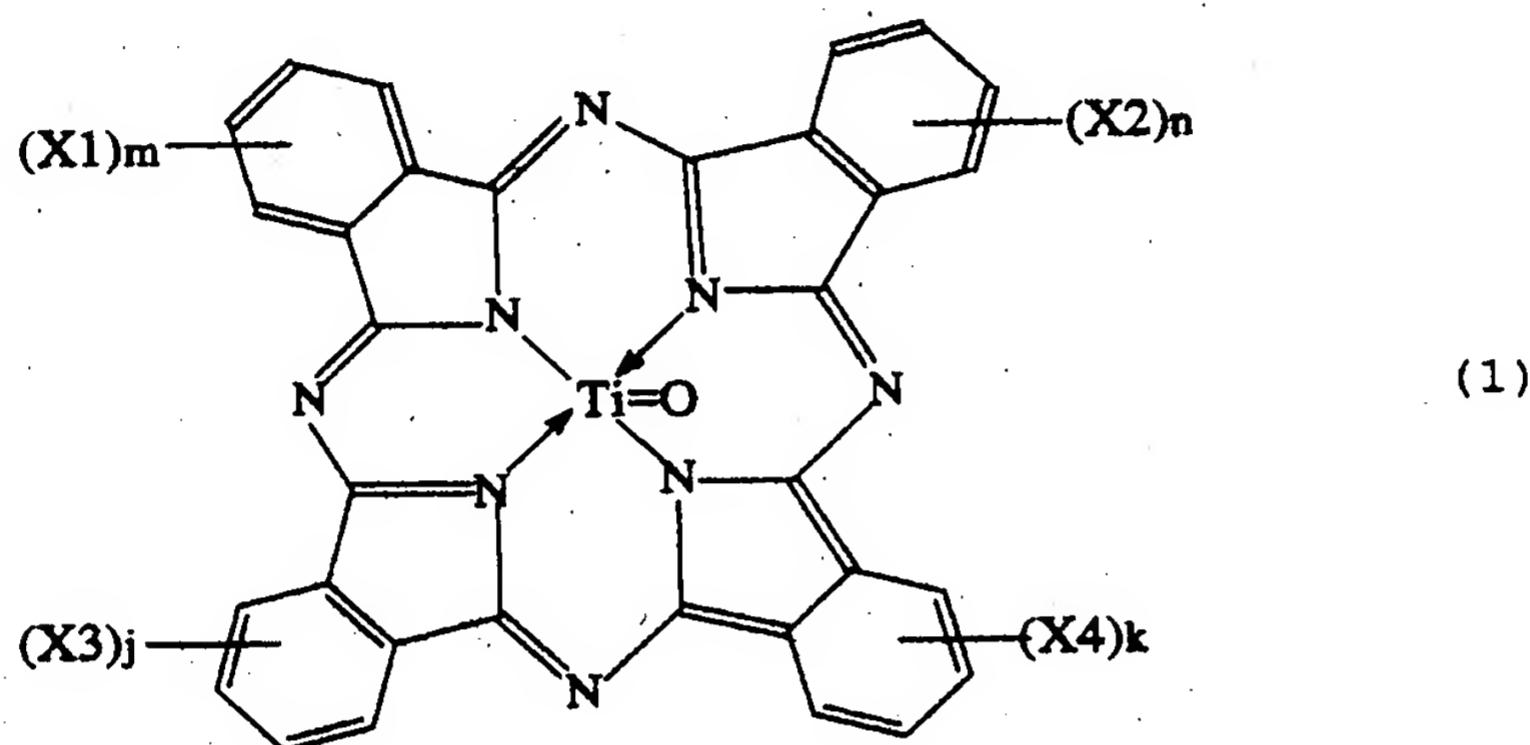
wherein said polyvinyl acetal resin has a polymerization degree of from 500 to 5000 and a content of hydroxyl groups of from 25 to 40% by mole.

29-32. (Canceled)

33. (Currently Amended) A photoreceptor, comprising:
an electroconductive substrate;
a charge generation layer located overlying the electroconductive substrate having no intermediate layer therebetween; and
a charge transport layer formed overlying the charge generation layer using a non-halogenated solvent and comprising a charge transport material and a resin;
wherein the charge generation layer comprises
a polyvinyl acetal resin, and
a titanyl phthalocyanine, as charge generation material, having an average particle diameter less than a roughness of a surface of the electroconductive substrate, on which the charge generation layer is located,

wherein the titanyl phthalocyanine has an X-ray diffraction spectrum according to Figure 13 when a Cu-K α X-ray having a wavelength of 1.542 Å is used; wherein the average particle diameter of the charge generation material is not greater than 0.3 μ m and not greater than 2/3 of the roughness of the surface of the electroconductive substrate; and

wherein said titanyl phthalocyanine is represented by formula (1)



wherein X1, X2, X3 and X4 independently represent a halogen atom, and m, n, j and k are 0;

wherein said polyvinyl acetal resins has a polymerization degree of from 500 to 5000 and a content of hydroxyl groups of from 25 to 40% by mole.

34. (Previously Presented) The photoreceptor according to claim 28, wherein said polyvinyl acetal resins is a polyvinyl formal or polyvinyl butyral.

35. (Canceled)

36. (Previously Presented) The photoreceptor according to claim 28, having no agglomeration of the charge generating material.

37. (Previously Presented) The photoreceptor according to claim 33, wherein said polyvinyl acetal resins is a polyvinyl formal or polyvinyl butyral.

38. (Canceled)

39. (Previously Presented) The photoreceptor according to claim 33, having no agglomeration of the charge generating material.